<u>REMARKS</u>

Claims 9-12 and 15 are pending in this application, and have been amended to define still more clearly what Applicants regard as their invention. It is noted that the majority of these changes are purely formal in nature, and do not narrow the scope of any claim recitation. Claims 1-8, 13 and 14, which have been withdrawn from consideration, have now been cancelled without prejudice or disclaimer of subject matter. Claims 9, 11 and 15 are in independent form. Favorable reconsideration is requested.

To clarify the record, it is noted that the elected claims, Claims 9-12 and 15, are readable on Figs. 13-20 (the fourth embodiment).

In the outstanding Office Action, Claims 9-12 were rejected under 35 U.S.C. § 102(b) as being anticipated by WO98/54903 (Aono et al.), and Claim 15 was rejected under 35 U.S.C. § 103(a) as being obvious from *Aono*.

Claim 9 is directed to an image processing apparatus that comprises discrete wavelet transform means (for example, elements 503-505 in Fig. 13) for performing discrete wavelet transform on a luminance component (Y) and two chrominance components (U, V) of image data, the size of the luminance components being the same as that of each of the two chrominance components.[1] Coefficient coding means are provided for encoding coefficients of subbands generated by said discrete wavelet transform means, and code data generation means generate code data by arraying code data corresponding to the luminance and chrominance components encoded by the coefficient coding means. According to Claim 9, the discrete wavelet transform means perform the number of discrete wavelet transforms on each of the two chrominance components more than that on the luminance component (see page 33, lines 2-8) and decompose the luminance and chrominance components into different numbers of subbands for the two chrominance

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[1]   It is to be understood that the claim scope is not limited by any details of the particular embodiment(s) referred to in these Remarks.

6

components. In addition, the code data generation means generate the code data by sequentially arraying a part or whole of code data of subbands at the same level among the code data (see Fig. 16).

Among other important features of an apparatus constructed according to Claim 9, is encoding image data having a luminance components and two chrominance components, in which the size of the luminance components is the same as the size of each of the two chrominance components. By virtue of this feature, an image having luminance and chrominance components, each resolution of the components is the same, can be reproduced from the encoded image data.

Another important feature recited in Claim 9 is that the number of applications of discrete wavelet transforms on each of the two chrominance components (U, V) is larger than that on the luminance component (Y), such that coding of the luminance component is completed before the chrominance components and the coded luminance component is first outputted.

Aono relates to video coding and decoding, in which input data is adaptively encoded, and which is capable of processing even data whose image components differ from each other in size or number of subbands (or both). According to Fig. 22 of *Aono*, a component Y is decomposed three times and components U and V are decomposed twice and the size of component Y is different from that of each of the components U and V (see the below Fig. A). Thus, the component Y is outputted before the components U and V, but Applicants strongly urge that this does not teach or suggest that the size (resolution) of the component Y is the same as that of each of the components U and V.

[Fig. A]
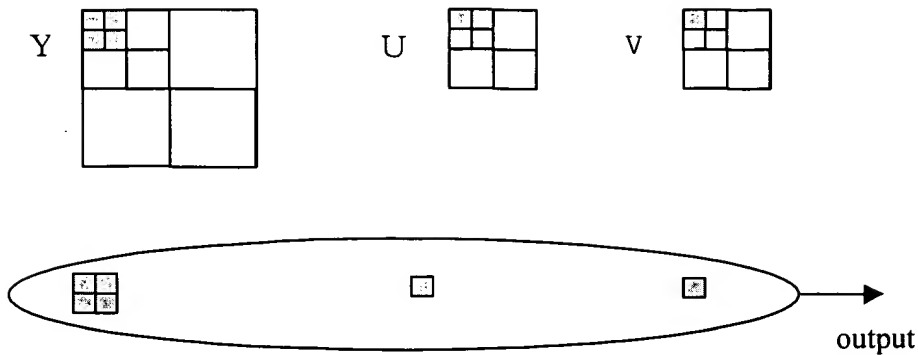
Further, according to a modification of the third embodiment at page 61 of *Aono*, even if an image whose components Y, U and V are the same in size and have different numbers of subbands can be encoded to have a hierarchical structure. Applicants understand that this corresponds to double-enlarging the size of each of the components U and V, as shown in the below Fig. B. According to the modification of the third embodiment, the size of the component Y and the components U and V are the same, but it is not in any way suggested that the component Y is outputted before the components U and V.

[Fig. B]
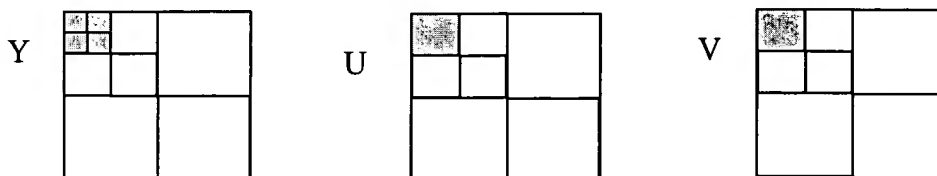
In contrast, according to Claim 9, the size of the luminance component is the same as that of each of the chrominance components and the number of applications of DWT is larger than that of the luminance component and sequentially arraying a part or whole of code data of subbands at the same level. See the following Figure.
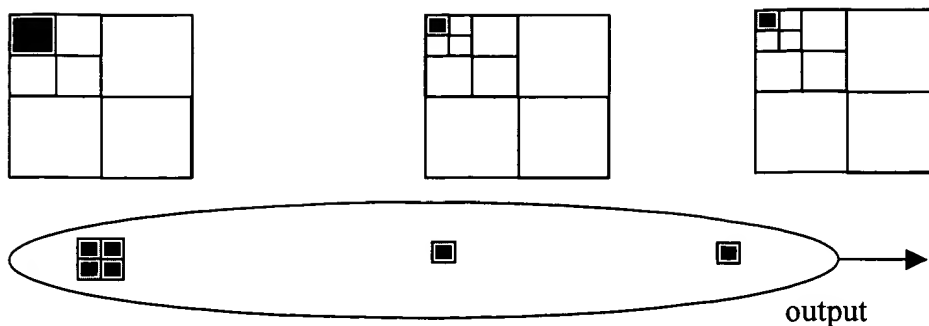
The *Aono* structure under discussion finally outputs the component Y and the components U and V having the same resolution, or outputs the component Y before the components U and V. In contrast, according to Claim 9, the luminance component is outputted before the chrominance components and finally outputting the luminance component and the chrominance components having the same resolution. Applicants submit that nothing found, or pointed out, in *Aono* would teach or suggest both (1) outputting the component Y before the components U and V and (2) outputting the component Y and the components U and V having the same resolution.

For all these reasons, it is believed to be clear that Claim 9 is allowable over *Aono*.

Independent Claims 11 and 15 are a method claim and a storage medium claim, respectively, corresponding to apparatus Claim 9, and are deemed clearly allowable over *Aono* for the reasons presented above with regard to Claim 9.

A review of the other art of record has failed to reveal anything which, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as a reference against the independent claims herein. Those claims are therefore believed patentable over the art of record.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of

the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

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10